Protecting Drinking Water in the Cuyahoga

CUYAHOGA AMERICAN HERITAGE RIVER

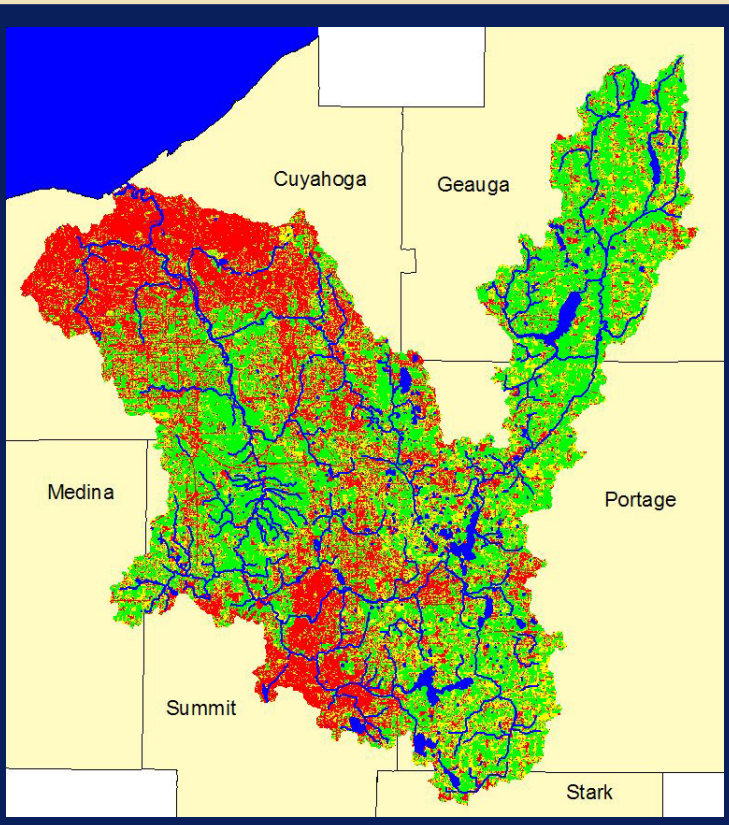
Guide #5

Is My Drinking Water Safe?

The United States enjoys one of the best supplies of drinking water in the world. Nevertheless, many of us who once gave little or no thought to the water that comes from our taps are increasingly asking the question: “Is my water safe to drink?”.

While tap water that meets federal and state standards generally is safe to drink, threats to drinking water quality and quantity are increasing. From short-term disease outbreaks linked to contaminated drinking water to restrictions on water use during droughts, we can no longer take our drinking water for granted.

The cost of having this quality water is increasing, and more officials and citizens are wondering why.

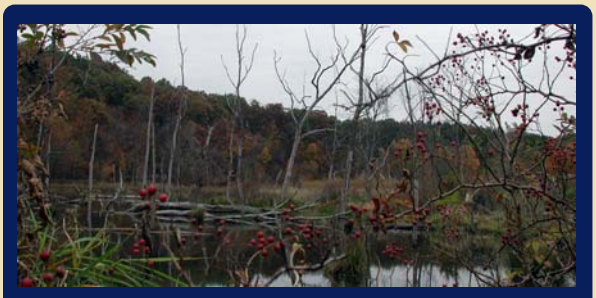


Urbanzation, indicated in red, is spreading throughout the Cuyahoga River Watershed. The manner in which land is developed has implications on the quality of the region’s rivers, lakes and underground aquifers. These water resources are our source of drinking water.

Uses for Pure Water

People depend upon clean water for many uses, including: drinking, bathing, cooking, manufacturing, agriculture, landscaping and recreation.

Our ability to have and afford this water now and in the future depends upon our ability and willingness to protect our supply of water, which comes from both surface and ground water sources.



Cuyahoga Wetland

Wetlands Naturally Cleanse Water Supplies

- Wetlands function as natural sponges that trap, filter and slowly release rain, snowmelt, and stormwater runoff.
- Trees, root mats, and other wetland vegetation also slow the speed of flood waters and distribute them more slowly over the floodplain. This combined water storage and braking action lowers flood heights and reduces erosion.
- Wetlands within and downstream of urban areas are particularly valuable, counteracting the greatly increased rate and volume of surface water runoff from pavement and buildings.

Where Does Our Drinking Water Come From?

Public Water Supply

- The United States enjoys one of the cleanest and most affordable drinking water supplies in the world.
- Most Americans get their drinking water from large scale municipal water systems. These systems are highly regulated to ensure reliable high quality for the public. The cost of meeting these regulations continues to increase as more potential health concerns are identified by researchers and regulations become more and more stringent. Other Americans depend on private water sources such as wells and aquifers.
- There are approximately 6,100 public water suppliers in Ohio. About 6,000 of them rely on ground water for all or most of their water supply. The rest depend on rivers, lakes and reservoirs.

Akron's Water Supply Facility

Cleveland's Water Crib houses the main intake for Cleveland's municipal water supply in Lake Erie.

Source Water Definition: Source water is untreated water from streams, rivers, lakes, or underground aquifers, which is used to supply private and public drinking water supplies.

The Water Treatment Process

A public water system has four major components:

1. A source of water such as a river, lake, reservoir or groundwater;
2. A collection system to withdraw the water, such as a well;
3. Treatment such as softening and disinfecting to improve and ensure water quality; and
4. A distribution system that delivers the water to customers.

Groundwater

- Half of all Americans get their water supply from underground sources of water. This *groundwater* may be in gravel deposits left from past glacial events, or from the ancient layers of lake sediments compressed over time into siltstone and shale.
- More than 95 percent of rural Americans get their household water supplies from groundwater.
- Groundwater also is used for about half of the nation's agricultural irrigation and nearly one-third of the industrial water needs. This makes groundwater a vitally important national resource.

Ground Water Well

Public Water Supplies

In the Cuyahoga River watershed, from the headwaters downstream to Lake Erie, public water suppliers include:

- Middlefield Village-groundwater
- Aquilla Village-groundwater
- Burton Village-groundwater
- Mantua Village-groundwater
- Portage County-groundwater
- City of Ravenna-surface water
- City of Kent-groundwater
- City of Akron-surface water
- City of Cuyahoga Falls-groundwater
- City of Cleveland-surface water

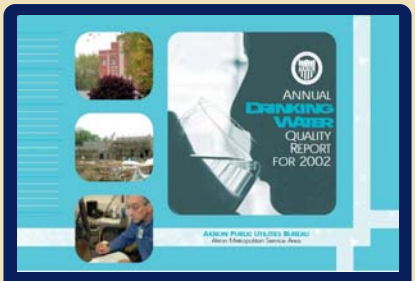
How Safe is My Drinking Water?

Safe Drinking Water Act

Amendments to the federal Safe Drinking Water Act require all states to safeguard the quality of our public drinking water at the source. The Ohio EPA Source Water Program collects information about the source of water for all of Ohio's public water systems. The three key steps to this program are:

1. Determine where the water is coming from
2. Identify potential sources of contamination
3. Determine the water system's susceptibility to contamination

This information aids the water supplier in protecting their source waters



Consumer Confidence Reports are available from your water supplier

Consumer Confidence Reports

- All regulated and public water systems are required to prepare a Consumer Confidence Report (CCR) annually and distribute the report to their customers.
- The reports contain information on the community's drinking water, including the source of the water, contaminants detected, the likely sources of detected contaminants, health effects of contaminants when violations occur, and availability of source water assessments.

Common Threats

Sediment and nutrients (nitrates and phosphates) pollute water supplies and come from urban development, farming, forestry, and roadsides. These contaminants can lead to summer algae blooms that cause taste, and color problems in drinking water from rivers, lakes and reservoirs.

This pollution also results in the creation of disinfection by-products during the water treatment process, so treatment costs are higher. These by-products are created when the disinfectant chlorine is added to keep drinking water safe through all parts of the distribution system. Disinfectant by-products are thought to pose health risks, and are closely regulated to reduce potential cancer, reproductive and developmental risks.

Pathogens, such as Giardia and Cryptosporidium, come from warm-blooded animals and cause health concerns. In 1993, 403,000 were sickened and 111 people died as a result of contaminated water supply in Milwaukee. The water supply was contaminated with Cryptosporidium.

Potential livestock contamination upstream.

Groundwater recharge zone for Cuyahoga Falls

Groundwater Contamination

- Over the last 10 years public attention has been drawn to incidents of groundwater contamination. This has led to the development of groundwater protection programs at federal, state, and local levels.
- Private wells are not required to routinely be monitored for water quality.
- Most well owners test their water for hardness, but are unaware of potential bacteria and other pathogens.
- Because groundwater supplies and conditions vary from one area to another, the responsibility for protecting a community's groundwater supplies rests substantially with the local community.

Increased Runoff from Development

Increasing development commonly results in increased amounts of impervious areas, like roof tops and parking lots, that result in increased volumes of runoff that overload our waterways and cause stream bed erosion.

Partnering for Protection

Healthy Streams, Healthy Communities

Preventing Contamination

Preventing drinking water contamination makes good sense because:

- Public Health is improved and less costly with fewer contaminants to be removed in the treatment process
- Total treatment costs are reduced for disinfection, taste and odor control
- It is technologically easier to keep water contaminant-free than to remove the contaminants

Protecting Drinking Water

Drinking Water Protection Starts at Home

Begin by taking a close look at practices around your house that might be contributing to polluted runoff: You may need to make some changes.

- Use less lawn fertilizer and pesticides;
- Recycle used motor oil and coolant;
- Have your well water tested – contact your local health department.
- Reduce compacted, impervious areas, such as paved driveways.
- Aerate your lawn to promote water infiltration.
- Leave unmowed areas as vegetated filter strips and wildlife habitat.
- Pump out the solids from, and maintain your septic tank.

Make sure your septic tank is functioning properly - contact your local health department.

Porous pavers allow water to percolate into the soil

Stream clean-up in Pond Brook Watershed

Community Action

- Conduct and participate in clean-up activities in your neighborhood;
- Pass zoning to protect wetlands and waterways, such as riparian and wetland setbacks;
- Write or call your state representatives to inform them about your concerns and encourage legislation to protect water resources;
- Implement erosion and sediment control ordinances.
- Promote environmental education. Help educate your community about ways in which they can help protect water quality. Get your community groups involved.

This brochure is part of a series of guides being prepared by the Cuyahoga AHR Partners to help local officials and interested citizens understand the issues and benefits of local watershed stewardship. Each guide is designed to cover a single topic related to watersheds and stream sustainability. The complete series will comprise a Watershed Handbook for Cuyahoga watershed communities

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